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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,127	02/14/2002	Anders Bostrom	10806-010	6140

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EXAMINER

MERED, HABTE

ART UNIT PAPER NUMBER

2662

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,127

Applicant(s)

BOSTROM ET AL.

Examiner

Habte Mered

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/12/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-13 are pending.

Claim Objections

2. **Claims 4-12** are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claim 13** is rejected under 35 U.S.C. 102(b) as being anticipated by Abefelt et al (US 5, 347, 513), hereinafter referred to as Abefelt.

Abefelt discloses a circuit-switch able to receive control data on a dedicated channel from a packet switch and set up a circuit-switched connection.

Abefelt discloses a device (10) (**See Figure 6, Column 11, Lines 25-30**) for transferring information in a communication network, in which control information for controlling the operation and payload traffic of the network is conveyed separately in respective circuit-switched channels which each comprise one or more time slots which are allocated in a recurrent frame and which each comprise an established number of n bits (**See Figures 4D, 4E, and 5; Also see Column 9, Lines 19-25 and Column 10,**

Art Unit: 2662

Lines 45-50), the device comprising means (11, 12, 13, 14) (Since the device shown in Figure 6 is a switch it is inherent for it to have input and output ports like 11,12,13, and 14) which, for each of at least those time slots (110A) which define channels conveying payload traffic, and preferably all time slots, associate a respective additional bit (110B) which is used as a flag for indicating whether control information exists with regard to the time slot associated with the respective additional bit(See Figures 4D and 4E corresponding to Control TS and Data TS respectively have additional bit that serves to indicate whether it is Data or Control – See Column 9, Lines19-20);and which are adapted to read/write the control information, when the additional bit indicates/ is set to indicate the existence thereof, from/to at least some of the n bits of the time slot associated with the respective additional bit. (See Figure 5 and Column 10, Lines 45-50)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1 and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Allpress et al (US 6, 744, 778), hereinafter referred to as Allpress, in view of Chiu et al (US 5, 883, 901), hereinafter referred to as Chiu.

Allpress teaches a time-division multiple access communication system.

Chiu teaches a method of efficiently using downstream bandwidth in a high-speed data communication network of computers connected by a fiber optics cable as shown in Figure 1.

7. Regarding **claim 1**, Allpress teaches a method for transferring information in a time multiplexed communication network (**See Colum1, Lines 50-67 and Figure 1**) in which control information for controlling the operation and payload traffic of the network is conveyed in separate channels which are each defined by one or more time slots allocated in a recurrent frame, each of the time slots comprising an established number of n bits (**See Column 2, Lines 53-59 and Figure 1**), the method comprising the steps of associating each of at least those time slots (110A) which define channels conveying payload traffic with a respective additional bit (110B) which is used as a flag (**See Figure 1 and Column 3, Lines 1-10. Allpress flag indicates if a traffic or payload data exists or not. In Allpress' system control data always exists – see Column 3, Lines 32-36**)

Allpress fails to disclose a flag for indicating whether control information exists regarding the time slot associated with the respective additional bit; and conveying the control information, when the additional bit indicates the existence thereof, as at least some of the n bits of the time slot associated with the additional bit.

Chiu teaches like Allpress in a downstream time multiplexed operation (**See Figure 5, and Column 7, Lines 50-67**) a flag for indicating whether control information exists regarding the time slot associated with the respective additional bit; and conveying the control information, when the additional bit indicates the existence

Art Unit: 2662

thereof, as at least some of the n bits of the time slot associated with the additional bit.

(See Column 14, Lines 15-20)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Allpress' apparatus to incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20.

8. Regarding **claim 3**, Allpress teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but fails to teach a method wherein the control information can be of different types and wherein only the existence of control information and not the type of control information is indicated by the bit which is associated with the time slot in which the control information is conveyed.

Chiu discloses a method wherein the control information can be of different types and wherein only the existence of control information and not the type of control information is indicated by the bit, which is associated with the time slot in which the control information is conveyed. **(See Column 14, Lines 15-20 – a flag value of 1 indicates a modem control frame without specifying what the content of the control frame)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Allpress' apparatus to incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by

Art Unit: 2662

Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20.

9. **Claims 2 and 4-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Allpress in view of Chiu as applied to claim 1 above, and further in view of Abefelt et al (US 5, 347, 513), hereinafter referred to as Abefelt.

10. Regarding **claim 2**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, comprising the step of associating also the time slots which define channels conveying control information with a respective additional bit which is used as a flag for indicating whether control information exists regarding the time slot associated with the respective additional bit, the control information being conveyed as at least some of the n bits of the time slot associated with the respective additional bit.

Abefelt discloses a method, comprising the step of associating also the time slots which define channels conveying control information with a respective additional bit which is used as a flag for indicating whether control information exists regarding the time slot associated with the respective additional bit (**See Figures 3D, 4B and 4D**), the control information being conveyed as at least some of the n bits of the time slot associated with the respective additional bit. (**See Column 7, Lines 47-55; Column 8, Lines 18-21; Column 9, Lines 18-21**)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus to

Art Unit: 2662

incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20 with respect to traffic data and Abefelt gives a complete solution in Column 8, Lines 18-21 while stating the same problem in Column 2, Lines 25-30.

11. Regarding **claim 4**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, wherein the control information (Mi) identifies that the time slot in which the control information is conveyed does not convey payload.

Abefelt discloses a method, wherein the control information (Mi) identifies that the time slot in which the control information is conveyed does not convey payload.

(See Figure 4D and Column 9, Lines 19-25)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus to incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20 with respect to traffic data and Abefelt gives a complete solution in Column 8, Lines 18-21 while stating the same problem in Column 2, Lines 25-30.

12. Regarding **claim 5**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, wherein the control information (Mi) identifies that the time slot in which the control information is conveyed replaces erroneous payload.

Abefelt discloses a method, wherein the control information (Mi) identifies that the time slot in which the control information is conveyed replaces erroneous payload.

(See Column 8, Line 27)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus to incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20 with respect to traffic data and Abefelt gives a complete solution in Column 8, Lines 18-21 while stating the same problem in Column 2, Lines 25-30.

13. Regarding **claim 6**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, wherein the control information identifies that the time slot in which the control information is conveyed marks the start of a packet.

Abefelt discloses a method, wherein the control information identifies that the time slot in which the control information is conveyed marks the start of a packet. **(See Column 7, Lines 58)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus to incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20 with respect to traffic data and Abefelt gives a complete solution in Column 8, Lines 18-21 while stating the same problem in Column 2, Lines 25-30.

14. Regarding **claim 7**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, wherein the control information (M2) identifies that the time slot in which the control information is conveyed marks the end of a packet.

Abefelt discloses a method, wherein the control information (M2) identifies that the time slot in which the control information is conveyed marks the end of a packet.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus to incorporate a flag for indicating whether control information exists. The motivation being to address the issue raised by Allpress in Column 2, Lines 60-63 which states that in a dedicated transmission channel not all frame slots are filled and Chiu describes a means to solve this issue as stated in Column 14, Lines 15-20 with respect to traffic data and Abefelt gives a complete solution in Column 8, Lines 18-21 while stating the same problem in Column 2, Lines 25-30.

Art Unit: 2662

15. **Claims 8-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Allpress in view of Chiu as applied to claim 1 above, and further in view of Yamanaka et al (Naoaki Yamanaka et al, "DTM: New Dynamic Transfer Mode using Dynamically Assigned Short-hold Time-slot Relay, 1998, IEEE), hereinafter referred to as Yamanaka.

16. Regarding **claim 8**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, which is used with respect of DTM time slots in a DTM network.

Yamanaka discloses a method, which is used with respect of DTM time slots in a DTM network. (See Page 377, 1st Column – last two sentences and 2nd Column, Lines 1-7)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus incorporating it with respect of DTM time slots in a DTM network. The motivation being Yamanaka stating packet delimitation mechanism for in-band signaling on page 377 and Allpress details such a mechanism in Column 3, Lines 1-10.

17. Regarding **claim 9**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 1 but does not disclose a method, which is used when conveying DTM time slots, each with its respective additional associated bit, over an underlying communication protocol.

Art Unit: 2662

Yamanaka discloses a method, which is used when conveying DTM time slots, each with its respective additional associated bit, over an underlying communication protocol. **(See Figure 3 and Page 377, 2nd Column)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus incorporating additional bits with respect of DTM time slots in a DTM network. The motivation being Yamanaka stating packet delimitation mechanism for in-band signaling on page 377 and Allpress details such a mechanism in Column 3, Lines 1-10.

18. Regarding **claim 10**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 9 but does not disclose a method, which is used when conveying DTM time slots, each with its respective additional associated bit, over SDH/SONET.

Yamanaka discloses a method, which is used when conveying DTM time slots, each with its respective additional associated bit, over SDH/SONET. **(Page 377, 1st Column, last paragraph, 1st sentence. An STM network is definitely an SDH network)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus incorporating additional bits with respect of DTM time slots in a DTM network over SDH/SONET. The motivation being Yamanaka stating packet delimitation mechanism for in-band signaling on page 377 and Allpress details such a mechanism in Column 3, Lines 1-10.

Art Unit: 2662

19. Regarding **claim 11**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 10 but does not disclose a method wherein each individual DTM time slot of 64 bits to be conveyed over SDH/SONET is mapped together with the bit associated therewith to jointly hold 65 bits in a virtual container (VC) in SDH/ SONET.

Yamanaka discloses a method, wherein each individual DTM time slot of 64 bits to be conveyed over SDH/SONET is mapped together with the bit associated therewith to jointly hold 65 bits in a virtual container (VC) in SDH/ SONET. **(Page 377, 1st Column, last paragraph, 1st sentence. An STM network is definitely an SDH network. Given 64 bits length is a standard for DTM time slot which the Applicant also concurs in the specification and the flag can be 1 or more bits resulting in 65 bits or more.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus incorporating additional bits with respect of DTM time slots of 65 bits in a VC in a DTM network over SDH/SONET. The motivation being Yamanaka stating packet delimitation mechanism for in-band signaling on page 377 and Allpress details such a mechanism in Column 3, Lines 1-10.

20. Regarding **claim 12**, the combination of Allpress and Chiu teaches all aspects of the claimed invention as set forth in the rejection of claim 11 but does not disclose a method wherein each individual DTM time slot of 64 bits to be conveyed over

Art Unit: 2662

SDH/SONET is mapped together with the data bit associated therewith and an additional parity bit to jointly hold 66 bits in a virtual container (VC) in SDH/ SONET.

Yamanaka discloses a method, wherein each individual DTM time slot of 64 bits to be conveyed over SDH/SONET is mapped together with the data bit associated therewith and an additional parity bit to jointly hold 66 bits in a virtual container (VC) in SDH/ SONET. **(Page 377, 1st Column, last paragraph, 1st sentence. An STM network is definitely an SDH network. Given 64 bits length is a standard for DTM time slot which the Applicant also concurs in the specification and the flag can be 1 or more bits resulting in 65 bits or more. Obviously if a parity bit is added the total comes to 66 bits. To one ordinarily skilled in the art using parity bit in packet communication such as modems is pretty much a standard scheme.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Allpress' and Chiu apparatus incorporating additional bits with respect of DTM time slots in a DTM network over SDH/SONET. The motivation being Yamanaka stating packet delimitation mechanism for in-band signaling on page 377 and Allpress details such a mechanism in Column 3, Lines 1-10.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent (5, 905, 733) to Solve et al

US Patent (5, 511, 072) to Delpart

Art Unit: 2662

US Patent (6, 195, 346) to Pierson, Jr.

US Patent (6, 577, 618) to Diachina et al

US Patent (5, 721, 732) to Emeott et al

US Patent (5, 842, 007) to Tarsky et al

US Publication (2001/0015980) to Ramfelt et al

also disclose similar subject matter.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

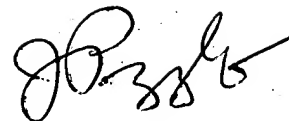
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM

Application/Control Number: 09/937,127
Art Unit: 2662

Page 15

11-12-2005

A handwritten signature in black ink, appearing to read 'J. Pezzlo', with a stylized flourish at the end.

JOHN PEZZLO
PRIMARY EXAMINER